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Use or delight? History of conflicting hill land uses in Scotland - a review

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**USE OR DELIGHT?
HISTORY OF CONFLICTING HILL LAND USES IN SCOTLAND – A
REVIEW**

Scottish Geographical Journal

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USE OR DELIGHT?

HISTORY OF CONFLICTING HILL LAND USES IN SCOTLAND - A REVIEW

Abstract

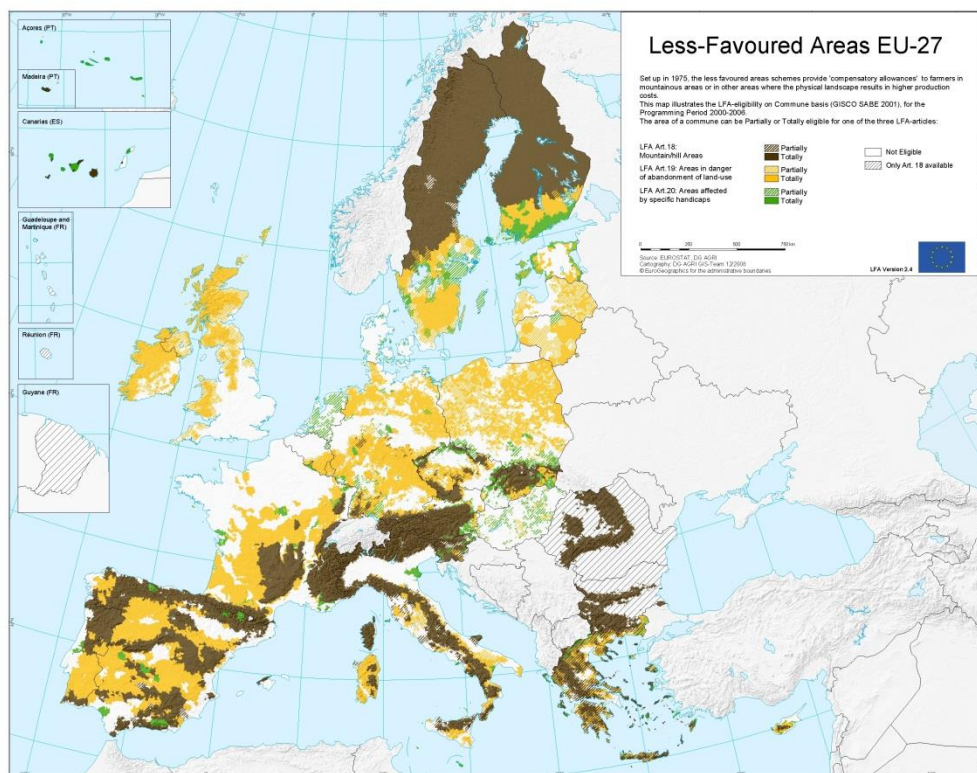
The hill and mountain areas in Europe are multi-faceted and places of differing and often conflicting land activities. Scotland provides a good example of a well described history of land uses with conflicting provision and management objectives. Using Scotland's hill areas as a case study, the article argues that using a dual interacting dichotomy of *"use"* of the land versus *"delight"* from the land, and of management for *"a few"* towards management for *"the many"*, could be used to describe and analyse the past and present conflicts over land activities. This article explores the political influences and historic evolution of hill farming and other associated hill land activities or interests, as well as the underlying conflicts that affect them. Most of these conflicts are grounded in historical, political and economic priorities, divergent management objectives and conflicting stakeholders' views. The article further argues these conflicts could be better understood by an appreciation of the different elements of *"use"* and *"delight"*, and of the different views and uses of interested parties. By asking both *"what is it for?"* and *"who is it for?"* a dual dichotomy approach was found to be useful to review these intricate issues overtime.

Key words: Hill land, Conflicts, Farming, Forestry, Game, Conservation

Introduction

Forty percent of the land in the European Union is agricultural (Eurostat, 2013), of which a large proportion (57%) is classified as Less Favoured Areas (LFA) under European legislation (LFA - Article 2 of EU Council Directive No. 75/268/EEC). This territorial designation reflects the natural handicaps (Figure 1), such as adverse climate, short growing season, tendency of depopulation, mountainous or hilly topography, which constrain productivity (Europa, 2009). Although these areas differ between European countries in the type, extent and intensity of the handicaps they labour under, there are similarities in the present and past challenges they face. Despite threats of land abandonment (MacDonald et al., 2000; Soliva et al., 2008), these marginal areas are of great importance to the rural economy.

Figure 1. Map of the Less-Favoured Areas in the European Union (Source: Europa, 2009).



In the marginal hill areas of Scotland, the land had and still has multiple outputs, single or combined primary purposes, each well established within the rural fabric. One of the primary purposes of the land has often been food provision through farming, however, as Smout (2000) described:

"at virtually the same time as Walter Scott provides his poetic shortlist of Areas of Natural Outstanding Beauty, the peat bog improvers are talking about 'immense deserts'. Delight is one thing, use is quite another [...]. In place of the old unity constructing nature as

static but simultaneously delightful and useful, there is an unalterable nature and a tension set up between use and delight” (Smout, 2000).

Although Smout referred to the historical tension between ‘use’ of the land and ‘delight’ of the land in 19th century Scotland, such dichotomy can be seen to the present day, as well as earlier in history. From medieval times, the land was seen as a resource for food and fibre production, shelter and fuel, especially for traditional farming communities (Dodgshon, 1998). However, it was also perceived in some locations as exclusive royal or aristocratic hunting grounds, and access to such pleasure grounds was socially restricted and closely policed (Adams, 2014). Today the Scottish uplands continue to provide tensions amongst different activities; livestock grazing and nature conservation; game management and wild bird management; public access and large scale renewable energy; forestry and peatlands; etc. One concept that captures these different activities is multifunctional agriculture, a term which strives to recognise and value all goods, services and products created by agriculture (Marsden & Sonnino, 2008). However, it is a concept that is not always uniformly understood or described (Wilson, 2007; Renting et al., 2009). This approach also founders to a degree as the agricultural component of upland use is frequently secondary or absent. Another recent fashionable concept is to espouse an ‘ecosystems services approach’ which divides land uses into a multitude of different activities and outputs (Haines-Young & Potschin, 2011; UK NEA, 2011). This provides a comprehensive list of services for humanity and/or the biosphere, that for Scottish hill land could include food, fibre, timber, game, leisure pursuits of access or game shooting, renewable energy, flood regulation, gaseous regulation, employment, cultural values of history and place and value of wildlife for aesthetic and biophysical ecological functioning. Whilst providing a comprehensive framework, rarely does it offer solutions to the frequent conflicts. As indicated, conflict is far from a new phenomenon and this paper reviews some of the tensions affecting Scottish hill land and modern day issues of policy using two interacting dichotomies; the ‘use’ or ‘delight’ argument put forward by Smout (production of consumables, resources versus non-consumable, aesthetic enjoyment); and a further dichotomy, the management of land ‘for a few’ to an increasing shift towards management being ‘for the many’.

Rather than using a narrative based around the ecosystems services approach, which focuses upon the multiple benefits the land generates, we propose a more simple approach which poses two key questions; what is the land for? (use or delight) and; for whom are these activities intended (the few or the many). Using Scotland as an example, this article explores the historic evolution of hill farming and other associated hill land activities and the underlying issues and tensions, using an analytical framework based on a dual dichotomy approach.

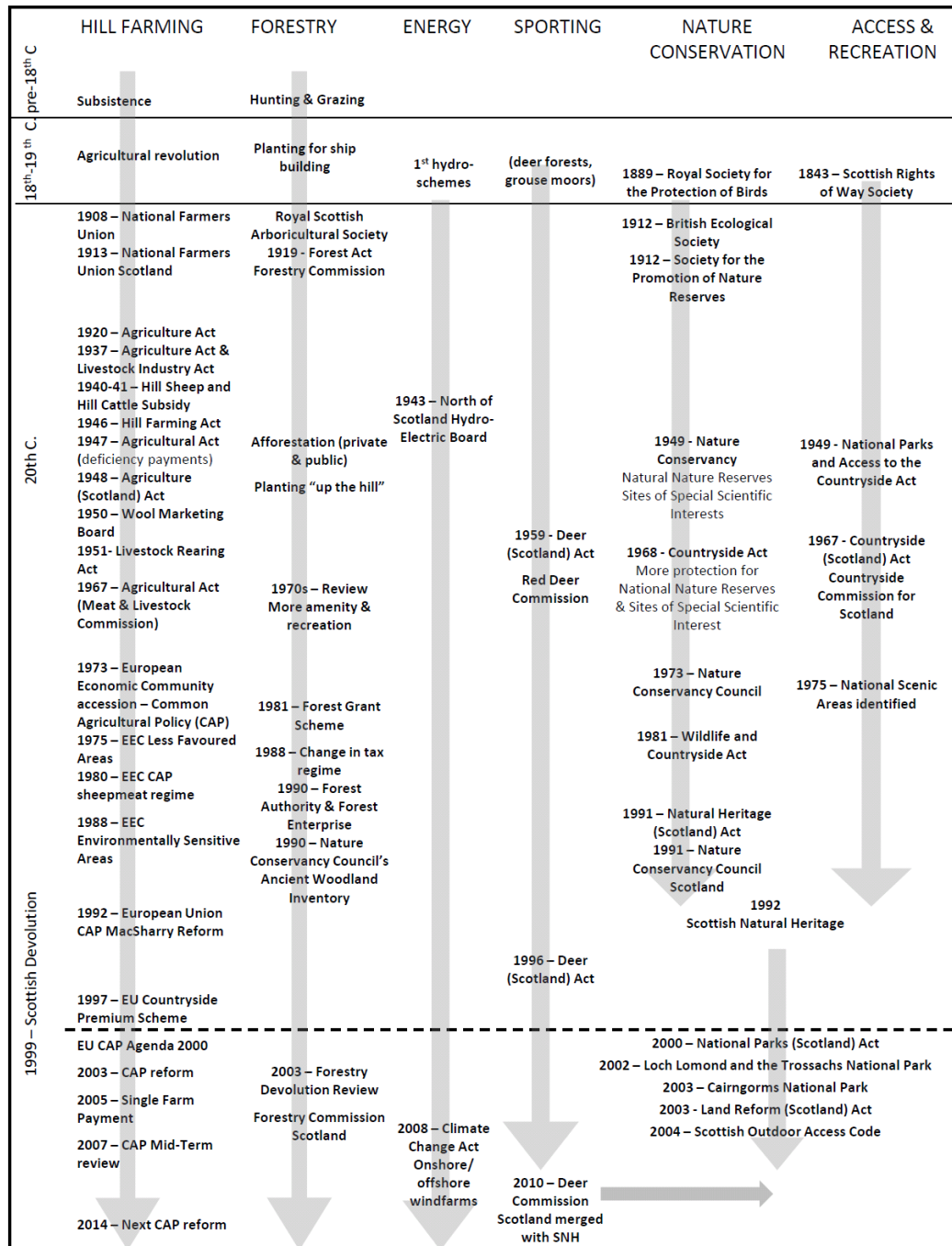
Background

Scotland has an area of 7.8 million hectares and a population of 5.3 million people (National Records of Scotland, 2014). Although rural Scotland only accommodates 19% of the total population, it occupies 94% of the Scottish land mass (Scottish Government, 2009). Covering 72%, agriculture dominates the land use though 86% of this is classified as LFA, with similar issues to the other European LFA.

In Scotland, the productive land-based activities in the LFA revolve around low intensity livestock husbandry, timber production and woodland, and more recently, renewable energy generation. At the same time, these areas are also a key asset for public access, tourism and large scale recreational hunting on sporting estates, activities which have proportionally high economic impacts within rural areas. Due to the type of vegetation (75% of LFA land is classified as rough grazing), livestock production mainly consists of rearing extensive hill sheep and cattle for sale and fattening on better quality pasture elsewhere (Riddell & Walker, 2011).

Current hill farming is the result of a long legacy of diverse developments in agricultural practice and policies, dating back to the medieval era and beyond (Figure 2). The industry has been dependent for many decades on high and continued levels of public support in the form of subsidies (Eadie, 1971; Gelan & Schwarz, 2008). At present, these subsidies are mainly from the European Common Agricultural Policy (CAP) (Brassley & Lobley, 2003).

Figure 2. Chronology of the different interests and land uses in the Scottish hill and upland areas.



Hill farming is not the only primary land use in the hills. Forest and woodland cover 17% of Scotland, with a proposal for this to reach 25% by 2050 (Forestry Commission, 2009). However, no more than 30% of the land in the hill areas would be suitable for woodland expansion (Forestry Commission Scotland, 2008). Game management (grouse or deer) on sporting estates also represents a significant land activity in these areas (MacGregor & Stockdale, 1994; Sotherton et al., 2009). Sporting estates are reported to account for 43% of all privately-owned rural land in Scotland (MacMillan

et al., 2010), many of which also have extensive livestock production, either managed directly or through farm tenancies.

Moreover, in Scotland, more than one million hectares of land have been designated as Sites of Special Scientific Interest (SSSI) or Natura 2000 sites (Special Areas of Conservation for habitats and Special Protection Areas for birds) due to their international importance for nature conservation (Scottish Natural Heritage, 2011). A high proportion of these sites are directly affected by land use in the hills (Thompson et al., 1995).

Access and tourism are also important issues in the hills. The hospitality sector accounts for 13% of employment in rural Scotland, compared to a national average of 6% (Scottish Government, 2011a). Tourism and visitor attractions in the more remote areas have been an important source of income as far back as the the 18th century (Vamplew, 2005).

Pre-18th century – emerging land activities

From the introduction of pastoral farming around 2000 BC to the 17th century, Scotland provided a subsistence agriculture, with limited cropping and livestock keeping. These systems, often subject to climatic variability, low yields and production, led frequently to food scarcity and occasional famine (Dodgshon, 2004). The classic layout of Scottish farms consisted of “infield” and “outfield” (Dodgshon, 1993). The infield was the area surrounding the steading that was kept under constant tillage and got most of the animal manure. The outfield was ploughed and rested alternately. Most farms had common pasture land, called moor, waste or hill, beyond the outfield and separated from it by a stone wall (Spratt, 1995). The land was ploughed in ridges and re-allocated periodically between the various tenants of a farm within a system called “runrig” (Spratt, 1995). This system of redistribution did not encourage farmers to improve the land. Grazing stock of hill land would be cattle, horses, some goats and sheep (Dodgshon, 2014), in small flocks and herds; much of it seasonal and shared and involving the use of shelters or small houses, known as sheilings as people stayed with their animals.

Forestry in the medieval era was also very important (Figure 2). Timber was used for construction, roofing and tool-making (Smout, 2003). Additionally, forests were often used to graze and shelter animals. However, a main role of the forest was to act as a place for hunting (Crone & Watson, 2003), which was the preserve of the upper echelons of society.

It can thus be argued that a dichotomy of use or delight was already present pre-18th century. Farming and forestry for grazing (use) were mostly for a high

proportion of the local population (many) of small scale tenant-farmers and the lower echelons of society, whilst, as Crone & Watson (2003) reported, access to woodland for hunting was controlled by the upper level of society (few), and the produce of the hunt was used to reflect their status (arguably delight).

18th and 19th centuries – 2 centuries of transition

Across northern Europe and Scandinavia, improvements to the agriculture techniques (e.g. improvement of ploughing techniques by the Dutch, changes in crop rotations in Flanders (Allen, 2000)) appeared by the late 1600s, early 1700s. This movement spread to England and eventually north of the border to Scotland, encouraging new ideas and developments in farming, such as the provision of livestock feeding in winter, the implementation of permanent enclosures to protect winter crops, new methods of cultivation through land levelling and a change in land tenure through a process of land division (Spratt, 1995). The Treaty of Union between England and Scotland in 1707 also provided access to new markets (Dodgshon, 1998). With the introduction of large flocks and novel breeds (Bangor-Jones, 2002) sheep and cattle farming became more commercial and spread rapidly in the uplands and hill areas between 1760 and 1790 (Darling, 1955). The French Wars (1789-1815) were a major influence in promoting large scale hill farming, as demand for wool and mutton made sheep farming very lucrative (Dodgshon, 1998). It was also a period of population growth, and, as farming improvements developed, farms became bigger and the tenant numbers decreased, as needs for farm labour lessened. In particular in some remote areas of rural Scotland, population increase was not matched by a rise in agricultural production or efficiency, leading to voluntary migration (Darling, 1955; Ryder, 1968). Events surrounding the period of the Highland Clearances (1770-1850) were also a source of major social, political and economic unrest (Ryder, 1968). The loss of access to the land by large numbers of local small-scale farmers, as they lost their tenancies to wealthier large scale tenants, was a key feature of this phase of history. There was a series of changes in livestock production patterns and the substantial shift towards large scale sheep production (Dodgshon, 1998), with far fewer people farming the land, was one of the defining features of the Clearances. There were major impacts upon the nature of land management, the products flowing from the uplands of Scotland, and much turmoil in the conflicts between tenants and landlords, between small-scale local graziers with seasonal systems, and large scale in-coming tenants with large sheep flocks and all year round grazing systems (Dodgshon, 1998), resulting in shift from many to fewer farming the land.

It was also a period when the nature of much land on heather, moss and moor was being changed due to drainage, ploughing and liming techniques (Spratt,

1995), all in an effort to increase productivity. This was to have major impacts on the other land activities, especially forestry, where throughout the 18th century, this systematic agricultural development on the lower ground reduced forest areas. However, the early tree planters movement (especially the Dukes of Atholl) changed the conception of forest management, and tried to combine “Beauty, Effect and Profit”, as explained by House & Dingwell (2003), or, in effect, combining use and delight. However, the general rural population had little involvement with forestry (Figure 3), which was still seen as the prerogative of the “laird” (Mather, 2003).

The other activity which started to expand on the land at the same period was hunting on sporting estates. Their development began in earnest in the mid 19th century with an increase in accessibility to the uplands and hill areas due to the railways, the considerable wealth arising from industrial entrepreneurs and the emergence of a strong land market in these areas. At this time, estates with hill grazings for livestock were being converted to “deer forests¹” (Fenton, 1976), as these provided a higher return than farming tenant rents (Ryder, 1968; Perren, 1995). In Perthshire and Aberdeenshire, with drier heather based moorlands, the emphasis was on grouse moors, some of which still carried flocks of sheep, often grazed by larger tenant farmers. In the north and west, very large deer forests often without livestock, which were seen as direct grazing competition, had even fewer active users. Such developments created a substantial shift in the Scottish landscape, where sporting estates were used by small numbers of rich owners, (delight for a few) with no place for the common herds and flocks (Dickinson, 1991; Wightman et al., 2002). There were some notable confrontations over the use of grazing land between rich estate owners and landlords and both small-scale tenant farmers (‘the Crofting Wars’; Hunter, 1995), and larger tenant farmers (Orr, 2011). The ebb and flow of the access for direct use of the land by the body of people now referred to as crofters has produced a huge volume of scholarly works and popular literature. In practical terms, the bulk of the land in the north western crofting counties was let to many small-scale tenants, who then lost access to much of this land during the Clearances phases. The residual populations had their rights and access to some of this land established through the crofting legislation in 1886 (Busby & MacLeod, 2010) but were limited in the way they could manage and exploit it. More recently, a series of ‘right to buy’ (MacAskill, 2004) and establishment of funding sources have enabled some of the crofting communities to buy larger areas of common grazing, their homes and fenced land around the crofting townships and to put the land under community management. This shift in use of the land, from many to a few, has been accompanied by shifts into who holds controls and what rights are held. There are many examples of colourful and painful history, with rent strikes, imprisonment of

¹ Sporting estates maintaining a population of red deer for shooting

rent defaulters, dispatching of a gunboat with marines to Skye (Willis, 1991), and multiple Royal Commissions and government enquiries being a backdrop to changes in land management (e.g. Hunter 1995).

Towards the end of the 19th century, the first impacts of a farming depression were felt (Perren, 1995), with the emergence of cheaper meat imports into the UK and the adoption of a Free Trade policy (Robinson, 1988). Imports of cheap food resulted in falling prices for UK farmers (Tracy, 1989), especially the Scottish hill farmers producing cattle and sheep (Whitby, 1950). By the turn of the 20th century, Britain only produced a quarter of its national food requirements (Spratt, 1995). As such, farming could be seen to have become an activity for a few. It could also be argued that the period of delight from the 19th century sporting estates was linked to a worsening plight of many tenant farmers, who suffered from the existing landlords with the need to generate money because of the farming depression, but also from the new landlords who wanted to use the land for pleasure.

Forestry planting also declined as cheaper imports of timber from Scandinavia and the Baltic undermined the need to grow supplies in Scotland. Timber for fuel also became less important, as Britain was rich in coal and peat (Smout, 2003). Similar to farming, forestry became a use for a few (Figure 3).

However, another productive output of the land emerged at the end of the 19th century, with the development of hydropower. Hydroelectricity was the first main renewable energy harnessed in Scotland with a private installation near Loch Ness becoming the first hydro-powered public electricity supply scheme in 1890 in Scotland (Wood, 2004). It was the need for electricity for industrial use though that drove the development of hydro-schemes in Scotland from the end of the 19th century until the mid-20th century (Miller, 2007). This was arguably use for many, but the earliest large hydro-scheme developments caused frictions amongst other land users and vested interests, such as the coal industry, landowners and sporting interests (Payne, 1988; Miller, 2007).

These two centuries brought many changes to the way the activities on the land were perceived (Figure 3). The 20th century will be found to further entrench these views.

Figure 3. Historic evolution of hill land activities by "Use or Delight" (what is it for?), and by Benefactors (who is it for?)

PERIOD	ACTIVITIES & INTERESTS					
	Hill farming	Forestry	Energy	Sporting	Nature Conservation	Access & Recreation
Pre-18th century	Use for many	Use for few (grazing) Delight for few (hunting)				
18th century	Use for many	Use for few (Early planters) Delight for few (hunting)				
19th century	Use for few (depression, Free Trade)	Use for few (Free Trade)	Use for many (hydro)	Delight for few		
Early 20th century	Use for many	Use for many Delight for few	Use for many (hydro) Delight for many (hydro – water recreation)	Delight for few	Delight for many	Delight for many
1970s and beyond	Use for few (post 1970) Delight for many (post 1992)	Use for many Delight for many	Use for many (hydro) Delight for many (hydro – water recreation) Use for few (windfarms – but benefits for many)	Delight for few	Delight for many	Delight for many

The 20th Century: a century of changes

First World War and the 1930s Depression. The First World War, its aftermath and the 1930s depression had a profound impact on land activities in the hills. With naval blockades and the consequent drop in food supplies from its colonies, the importance of Britain's home farming sector became paramount. This brought a change in attitude towards agriculture, arguably a change from use by few to use for many (Figure 3). Despite this political development, the 1930s depression derailed an already fragile economy in the hills, leading to a decline in livestock numbers (Perren, 1995). After the First World War, the death toll also caused serious shortage of farming labour, and, on some upland Scottish estates, the financial burden linked to death duties meant some estates got divided and sold out to tenant farmers (Dinsdale, 1950). This led to a massive change to land ownership, with a rise in farmer owner occupation. Many of the larger estates were also broken up into smaller ones, and new generations and changing patterns of estate ownership have

been a feature of management of the bulk of the Scottish land by a relatively few people.

Attitudes towards forestry planting also shifted. After the war, the British Government promoted forestry to address strategic timber shortages, as only 4.7% of the UK surface area (and 4.5% of Scotland's area) was then forested (Forestry Commission, 2013). The Forestry Commission was set up in 1919 (Figure 2) through the Forestry Act, 1919 (Smout, 2000; House & Dingwell, 2003), thus promoting a shift towards provision for many. At the outset, though, the uptake of private planting had been restricted by taxation regimes and by the 1930s agricultural depression (Smout, 2000).

Sporting estates saw their pre-war expansion stopped, as during and after the war sheep and cattle were reintroduced for meat production on many of the deer forests (Smout, 2000).

However, a major shift occurred in terms of energy production, and, as stated by Wood (2004) and Payne (1988), a flurry of hydro-schemes developed, for industrial and public supplies (Figure 3), following the earlier 1900s developments, such as the Kinlochleven hydro-electric scheme (1905-1909). By 1938, the potential electricity output from these schemes was estimated at 229 MW/year. In 1943, the North of Scotland Hydro Electric Board was founded to provide electricity and also to provide for the economic regeneration of Northern Scotland (Payne, 1988). From 1944 until 1975, up to 22 projects were undertaken in the hill areas of Scotland. Likewise, the Galloway Water Power Scheme, (built 1931-1937) was conceived to handle peak load and improve the other power stations in Scotland. At its peak, this project employed 1500 people (Hawthorne & Williams, 1938).

This shift in attitudes towards land activities and interests continued after the Second World War. The major change, perhaps, was the emergence of nature conservation and access to the countryside, which became recognised and regulated by the British government (Mackay, 1995). It can be argued that it is really the post-war period that witnessed the establishment of a new dichotomy for land activities: use and delight, but for many, leading to even more conflicts.

Post Second World War. The importance of hill farming production was recognised during the Second World War, with the introduction of the Hill Sheep Subsidy and Hill Cattle Subsidy in 1940-41, in order to stimulate food production on moorland areas and maintain a reservoir of breeding stock for lowland farmers (Dinsdale, 1950; Robinson, 1988).

However, it was really post-war food shortage that prompted the British Government to encourage domestic production and a more effective use of grass (Dinsdale, 1950). The enabling legislative acts (Hill Farming Act 1946; Livestock Rearing Act 1951) were designed to improve hill capability and efficiency (Dinsdale,

1950; MacEwen & Sinclair, 1983). In addition, the Agricultural Act of 1947 (Figure 2) was designed to create much needed stability in the farming sector (Tracy, 1976) through price or income guarantees and in so doing, provide farmers with a reasonable living (Bowers, 1985; Robinson, 1988). In 1954, the Hill Farming Research Organisation was established, charged with exploring the issues and opportunities for Scotland's hills and their need to be more productive (Cunningham & Maxwell, 2011). Farming at this period was promoted as a use by a few (hill farmers) but for the greater population as a whole (Figure 3).

In 1964, the social role played by agriculture was also recognised (Bowers, 1985), and special support for the hills and uplands was introduced, with a livestock headage payment on a long-term basis and a series of hill farm improvement inducements, such as hill ploughing grants. Even this social role was about use as it meant keeping viable populations in the rural areas to provide a current and future labour force. Whitby (1970) argued that, unfortunately, these measures were not altogether successful in improving viability, and even prevented land use change, where less viable hill farms might have been turned into forestry or sporting activities (Dinsdale, 1950; Hart, 1956).

Post-war forestry developments were affected by these encouragements for agriculture, and, as better lowland was used for farming, tree planting was driven '*up the hill*' on to poorer grazings (Davidson & Wibberley, 1977). However, afforestation in the Scottish glens by non-native species brought strong criticisms from those with environmental interests (Robinson, 2011). In response to this, the Forestry Commission reinstated amenity and specifically branded Forest Parks, within its policies. By 1953, there were six Forest Parks in Scotland (Foot, 2003): the Argyll Forest Park (the oldest Forest Park in Britain, created in 1935), the Tay Forest Park, the Queen Elizabeth Forest Park in the Trossachs (first designated when Queen Elizabeth II came to the throne in 1953), the Tweed Valley Forest Park, Glenmore Forest Park in the Cairngorms, and the Galloway Forest Park (established in 1947; it is the largest forest in Britain). The 1960s saw an expansion of afforestation by the private sector, though access into these areas was a source of conflict at times.

However, at the time, the major development in public interest in upland land was the emergence of nature conservation and access and recreation (Figure 2). In parallel with the passing of the first Town and Country Planning Acts across the UK (1947), and of the National Parks and Access to the Countryside Act for England and Wales in 1949, the Nature Conservancy, (which became the Nature Conservancy Council - NCC, then the Nature Conservancy Council for Scotland - NCCS, and subsequently Scottish Natural Heritage - SNH), was created to promote a network of National Nature Reserves (NNR) and Sites of Special Scientific Interest (SSSI). It purchased or leased land for NNR and undertook an extensive programme of

designating SSSIs. At present in Scotland, there are 47 NNR, extending to over 95,000 hectares (Scottish Natural Heritage, 2013a). The concept of agreements for the management of NNRs was extended to SSSIs, under the Countryside Act, 1968 (Sheail et al., 1997). This was further extended by the Wildlife and Countryside Act (1981), which offered more protection to the NNR and SSSI network. This Act also made the notification of SSSI, at the hands of the Nature Conservancy alone, as a means of habitat protection with legal sanctions attached (MacGregor & Stockdale, 1994). It was the real beginning of delight for many (Figure 3). The National Farmers Union secured a provision by which compensation had to be offered by the NCC if farming operations were restricted by SSSI notification, leading to many conflicts in later years (Mackay, 1995). SSSI designations were also seen to hamper efforts to economically develop some remote areas, leading to conflicts between the British Government, NCC (and later its successor organisation SNH) and landowners (e.g. Islay developments over geese (MacMillan & Leader-Williams, 2008), Glen Lochay over forestry and agriculture (MacKay, 1995), the 'Flow Country', one of the largest area of blanket bog in Europe (Lindsay et al., 1988) in Caithness and Sutherland over forestry). In the late 1980s in the 'Flow Country' commercial afforestation was seen as a valuable economical land use for the area, whereas conservationists saw this wetland habitat as internationally significant and needing protection. Although the source of major conflicts, Warren (2000) argued that this controversy eventually had positive outcomes both for conservation and forest practice.

Additionally, the Countryside Commission for Scotland (CCS) was created in 1967 (Figure 2). Its responsibility was to both conserve scenic beauty and develop recreation and tourism (Mackay, 1995). Early in its establishment, conflicts with other land activities did not occur and its initiatives encompassed a recreation strategy, ranger services, the establishment of long distance walking routes and the identification of National Scenic Areas as a basis for landscape protection. A list of 40 areas was drawn up, covering 13% of Scotland (Mackay, 1990). In the 1980s, CCS had a more interventionist approach to traditional land activities, especially to agriculture and forestry in the hills and uplands. The policy aims for the uplands were highlighted by the Commission, mentioning special measures to assist hill and upland farming (Countryside Commission, 1984). This, too, was to promote delight for many, in terms of recreation, with arguably some consideration for use.

These new delight activities for many were not the only ones creating tensions. After 1945, hydro-schemes also encountered more bitter criticisms from conservationists, fishing interests and the coal lobby, with issues that it would desecrate the Scottish countryside, exterminate salmon, decimate the tourist trade, and submerge the grazing land of sheep and stags (Payne, 1988). The large scale dam-based schemes did indeed consume land, particularly the better lowland

pastures. However, along with the provision of drinking water supplies, these dams created access and infrastructures around the impounded water supplies providing use and delight for many, due both to access by individuals and strategic interest in power and drinking water. These hydro-schemes development linked to the wider societal aspirations of bringing electricity to all remote communities across Scotland. Despite the conflicts, these schemes are good examples of land use for the good of the many. Hill farming has at times prospered alongside hydro-power and drinking water supplies. However, more recent concerns over *Cryptosporidium* contamination of water supplies before the introduction of ultra-filtration resulted in the removal of livestock (8000 breeding ewes) and the loss of jobs for shepherds from the 9,500 ha catchment farmed at Loch Katrine and Loch Arklet, which supply drinking water to Glasgow (Robertson, 2009). This land is now at the heart of a larger grouping of former hill sheep farms, on which the Great Trossachs Forest lie, with emphasis upon wider public access and wildlife management. The management of this Forest, which also include Glenfinglas (Picture 1), falls between a government agency (Forestry Commission) and large charitable NGOs (the Woodland Trust and RSPB) and is supported through the Loch Lomond and the Trossachs National Park (The Great Trossachs Forest, 2014). As a result, land has changed from private ownership in a very few number of hands for direct production of food and fibre, to one of combined public and membership organisation ownership, with widespread public use being a primary objective. Part of the area is also well known for direct use of timber, charcoal and oak bark for industrial processes including leather tanning (Tittensor, 1971).

Picture 1. Glenfinglas in the Great Trossachs Forest – from royal hunting estate, to privately-run sheep farm surrounding public water supply, to NGO-run estate with conservation and public access as top priorities.



Arguably, these two dichotomies use for many and delight for many, enshrined in various government policies, led to further conflicts between interest groups with different views. As early as the 1970s, academic reviews warned of the different land use policies targeting the same areas without clear focus (Davidson & Wibberley, 1977; Mackay, 1995). For instance, although the Wildlife and Countryside Act (1981) was passed to allow more protection for SSSIs and NNRs, MacEwen & Sinclair (1983) maintained that it did not ensure *“reconciliation of conflicting agricultural, forestry and conservation policies”*.

The 1970s and beyond– attempts at reconciliation?

The 1970s and 1980s saw major shifts in policies for various land activities and interests, with some attempts at, if not reconciling, at least recognising the need for better integration.

Hill farming. The UK’s accession to the European Union in 1973 could be seen as a first step towards integration of hill land activities. With membership came the CAP, which introduced a series of international measures to Scotland, with an inter-linking between policies for different land activities in the hills. At its inception, the CAP aimed at increasing agricultural productivity through market support, while ensuring a fair standard of living for those involved in agriculture (Bowers, 1985).

The implementation of the Less Favoured Areas (LFA) Directive in 1975 combined the concept of a production grant with a social payment, for areas suffering from natural handicaps (Brassley & Lobley, 2003). About 53% of the UK land area was registered as LFA, nearly 65% of which was in Scotland (Robinson, 1988), and farmers in these areas were eligible for support payments through the Hill Livestock Compensatory Allowance (HLCA) scheme (Figure 4). However, this scheme was criticised (Robinson, 1988) for making payments that were not sufficiently selective to meet the social objectives, and for advantaging large farms disproportionately compared to smaller producers. The introduction of the LFA supplement, payable to all LFA sheep farmers in 1991, led in places to increased livestock production, with increasing concerns for negative environmental impacts (Ashworth & Caraveli, 2000).

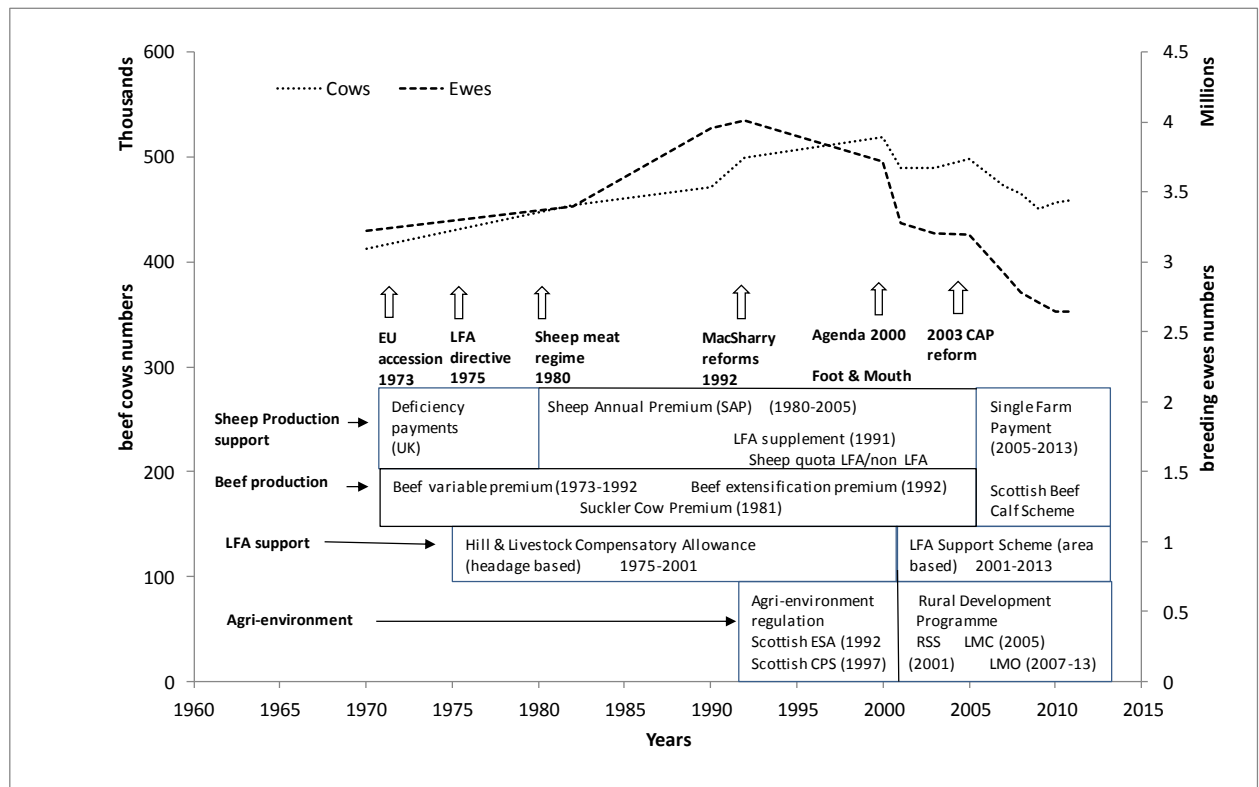
However, it was the 1992 MacSharry reforms of the CAP which introduced a major shift away from market support towards more environmental and direct support, as farmers were seen as both managers of the environment as well as food producers (Gardner, 1996). Potentially, it was the first policy that combined delight and use in farming. Measures promoting increased environmental management of the land and increased afforestation were also implemented (Brassley & Lobley, 2003), with particular attention focused on the environmental benefits of the LFA scheme (Dax & Hellegers, 2000). However, for the hill farming areas, these specific environmental schemes were orientated towards limited elements of hill farming systems or very specific areas of a hill farm (Morgan-Davies et al., 2006), and were criticised for not targeting the bulk of the hills grazed by livestock and for the lack of accessibility to funding for smaller scale management operations (Scottish Executive Social Research, 2003).

The Agenda 2000 CAP reform introduced the Rural Development Programme and replaced the HLCA with the Less Favoured Area Support Scheme (LFASS) in 2001 (Figure 4). One aim of this scheme was to encourage hill farmers to keep more cattle which were seen as environmentally beneficial (Morgan-Davies et al., 2006).

However, it was the CAP mid-term review in 2003 which introduced a further shift away from production support. Cross-compliance measures were put in place, with strong elements of environmental protection, food safety, and animal health and welfare. Support measures for wider environmental management were introduced, perhaps as an attempt at integration, but certainly at providing public goods from farming for the wider population. EU member states had the option of retaining some elements of coupled payments, but Scotland only kept a modest Beef Calf Scheme and wholly decoupled sheep payments (Osterburg & von Horn, 2006). Initially, the predicted effects were for a slight downward trend in sheep production and a decline in suckler beef outputs (European Commission, DG for Agriculture, 2003). However, since then, there have been major concerns in terms of hill farming

activity (SAC Rural Policy Centre, 2008) due to the large reductions in sheep numbers (Figure 4) in the Scottish hills and uplands (Royal Society of Edinburgh, 2008; Cumulus Consultants Ltd, 2012), with resulting land abandonment (SAC Rural Policy Centre, 2011), similar to other parts of Europe (Strijker, 2005; Renwick et al., 2013).

Figure 4. Trends in breeding ewe and beef cow numbers (1970-2013) in Scotland and associated support systems.



Forestry. The 1970s also brought a change, as returns on public money invested in forestry came under scrutiny and the Forestry Commission had to review its policy intentions. Forests for amenity and recreation purposes became more important (Haines, 1982). It was the development of delight for many as well as use for many (Figure 3). Planting species other than conifers, despite their lower economic value, also became more common. In Scotland though, planting on open ground in the uplands was still continuing with little regard for species variety or forest design, and the benefits of afforestation to rural employment in the hills and uplands were questioned (Mackay, 1995). A new Forestry Grant Scheme, launched in 1981, boosted the rates of large scale planting from investment interests but remained of little use to struggling hill farmers (Mackay, 1995; Mather, 2003). Between 1965 and 1980, the area of forest cover in Scotland increased by 40% (Forestry Commission, 2013), much on hill farming and deer forest land (Mather, 1991).

In the 1980s, through European policies, the Forestry Commission initiated measures to incorporate forestry within agriculture (Mackay, 1995), through the planting of trees on agricultural land, but these were rarely truly integrated with nature conservation programmes (MacEwen & Sinclair, 1983). In 1988, the taxation regime was modified to limit the profits made by private forest companies (Smout, 2000). The Forestry Commission underwent restructuring in 1990 and, in 2003, the Forestry Commission Scotland was created (Figure 2). It served as the forestry directorate of the Scottish Government, advising on and implementing forestry policy and managing the national forest estate. One of its early aspirations, which became Scottish Government policy, was to increase woodland cover to 25% of the land area in Scotland by 2050 (Forestry Commission Scotland, 2005). These changes seemingly tried to reconcile use and delight by considering integration with other land activities.

In the early 1990s, recognition that farm woodlands could bring benefits was accepted and integration of farming and forestry was being advised (McKnight, 1996; Crabtree et al., 1997). The planting of broadleaves was encouraged by higher rates of grants. To enhance integration with farming and to encourage farmers to plant trees, a Farm Woodland Premium Scheme was introduced. However, all planting schemes excluded livestock from woodlands, despite many authors (e.g. Pollock et al., 2005; Sibbald et al., 2001; Morgan-Davies et al., 2008) arguing that stock could be beneficially grazed in woodlands for landscape and biodiversity purposes, as well as showing environmental and economic benefits (delight and use). Upland pastoral grazing systems and forestry are still commonly seen to be in conflict, with Scotland remaining one of the few countries to fail to support agroforestry², until the development of the latest forestry proposals and grant schemes. A woodland grazing scheme within the Scottish Forestry Grant Scheme is also now available to farmers under the Scottish Rural Development Programme (Scottish Government, 2013a), though is likely to affect only a small area of land. Could this reconcile two different uses for many?

Agriculture aside, much progress has been made to accommodate other hill land activities. In the early 2000s, the environment, amenity, employment and social aspects were mentioned in the Forestry Commission's corporate plans (Forestry Commission, 2005; Gill et al., 2006). Policies within forests taking into account the potential of the public recreation and demands for access (e.g. access legislation such as the Scottish Outdoor Access Code in 2004), tourism and biodiversity continue to emerge (Scottish Natural Heritage, 2004). New avenues, such as carbon storage and climate change issues, are also part of recent forestry policy agendas (Forestry Commission, 2008; Forestry Commission, 2009), with aspirations to increase

² low density trees with intercropping of cereals or grassland for grazing

woodland cover in Scotland from the current 17% to around 25% by 2050, whilst adapting forestry practices to help reduce the impact of climate change (Reed et al., 2009). This is a change towards recognition for use and delight, managed for the many.

Sporting estates. Conversely, the Scottish sporting estates could still be seen as delight for few, even if they represent one of the most significant concentrations of land dedicated to sport in Western Europe (MacMillan et al., 2010), mainly for the pursuit of three species: red grouse, red deer and salmon. Some 250 sporting estates remain in Scotland, covering approximately 2 million hectares (MacMillan & Leitch, 2008). Their management is geared towards game for a more intensive form of hunting and short-term financial returns. This situation, coupled with the quick turn-over of estate ownership, may lead to a decrease in well-established long-term approaches to game management (Dickinson, 1991), with little attempt for integration in their management. Although sheep had been traditionally allowed on many deer forests and grouse moors (though their numbers tightly controlled); but after 1945, there had been concerns over overstocking (Smout, 2000). Nowadays, many sporting estates still have sheep farming in place, but it is mainly to keep their gamekeepers fully employed (MacMillan et al., 2010) or to use the sheep as “tick mops”³ thus reducing the incidence of tick diseases in grouse (Game and Wildlife Conservation Trust, 2010).

The Deer (Scotland) Act 1959 (Figure 2) established the Red Deer Commission which had overall responsibility for conservation and control of wild red deer in Scotland (MacGregor & Stockdale, 1994), and throughout the 1980s, the Commission encouraged estate managers to reduce deer populations. However, conflicts over the intensity of delight became apparent between the conservationists’ perception of too many deer and the landowners’ one of fewer deer undermining traditional stalking (Phillip et al., 2009). Pressures due to concerns over unsustainable deer numbers also led to conflicts with the surrounding land uses, such as forestry (Smart et al., 2008; MacMillan et al., 2010), nature conservation (Thirgood et al., 2000), and recreation, especially hill walking.

Conservation and access. Nature conservation interests also acknowledged this need for integration. In 1991, through the Natural Heritage (Scotland) Act 1991, the combined bodies of the Scottish NCC and the CCS became SNH, whose aims (according to Mackay, 1995) were that:

‘nature conservation should cease to be a self-contained crusade, wilfully pushing all other considerations aside [...] and should take its place alongside other interests,

³ The ticks are then killed on the sheep using insecticides.

seeking to understand their point of view and to gain their sympathy – with the aid of finance, if necessary’.

This should have meant in principle use and delight for many. However, in 1990, tensions between recreation and estate management were growing (Countryside Commission for Scotland, 1990). Opposition to afforestation from wildlife conservation interests had also been particularly dramatic (Crabtree, 1991). Calls for setting up National Parks in Scotland had been sporadic over the years, despite the 1949 National Parks and Access to the Countryside Act (England and Wales) which led to the subsequent creation of 13 National Parks in England and Wales. The delay in establishing National Parks in Scotland was due to the powerful landowning lobby and the weak amenity and access interest groups, especially in the Highlands (Mackay, 1995). It was only after Scottish Devolution in 1999 that the National Parks (Scotland) Act (2000) was passed (Barker & Stockdale, 2008). Subsequently, the Loch Lomond and the Trossachs National Park was created in 2002, and the Cairngorms National Park in 2003 (Figure 2). One of their aims was to provide for the social and economic well-being of communities who live and work within the Park areas, a unique view to the national park concept (Barker & Stockdale, 2008). Nonetheless, in cases of conflict of interest between aims, the Act specified that priority must be given to conservation matters, under the Sandford principle (National Parks, 2014).

In the 1990s, countryside access legislation was also becoming a growing concern in Scotland. Despite the widespread custom and practice of free access to the hills, there were conflicts on the ground, particularly with sporting estates. Organisations, such as the Ramblers Association had campaigned for the “right to roam” in the countryside (Ramblers Association, 2009). The outcome was clearly a delight for many as the Land Reform (Scotland) Act (2003) was passed, and SNH published the Scottish Outdoor Access Code in 2004 which encompassed all areas in Scotland (Scottish Natural Heritage, 2004).

Energy production. Another recent development in land activity has been the generation of electricity using wind power. Scotland as a whole has the best onshore and offshore wind resources in Europe (Warren & Birnie, 2009). This was to add to the electricity generated from hydro-schemes and pumped storage facilities, estimated at 11.6% of the total electricity generated in Scotland in 2011 (National Statistics Publication for Scotland, 2013). Onshore wind is rapidly overtaking hydropower as the renewable technology with the greatest generating capacity (Department of Energy and Climate Change, 2011). In 1995, there were no wind farms in Scotland; in 2013, there were 198 installed or approved farms and 185 in the planning process (Scottish Natural Heritage, 2013b). In 2003, only 1% of the electricity produced in Scotland was from onshore wind farms, compared to over 10% in 2010.

However, it has not been without conflict. Large scale wind farms have created some of the highest profile environmental issues in Scotland (Warren, 2009). These wind farms, both actual and proposed, spread over large areas of land used for agriculture, game management or forestry. Perhaps the most voiced concerns were over their effects on wildlife and on peat soils (Smith et al., 2014).

There is also much controversy about the impact upon access and landscape. To address some of these issues, Scottish Natural Heritage (2009) released policy guidance for onshore wind farm locations to minimise the effects on the natural heritage. Warren & Birnie (2009) argued that opposition to hydro-schemes or wind turbines was stronger when the schemes were privately owned, rather than being state owned or controlled. This reinforces the notion of use by few, even if eventually it is for the benefit of the many.

Use and/or delight; for a few or for the many?

Over the past few centuries, the two dichotomies used to describe land activities (use or delight, few versus many) have gradually shifted towards use and delight for many (Figure 3).

This has led to conflicts. Some have been over the scale of developments, as described with the issues linked to energy production or forestry planting, but others have been over the intensity of the management. Notably, some groups have advocated a different sort of management for the hills, with calls for “*re-wilding*” (Warren, 2009; Brown et al., 2011). The Scottish Wild Land Group questioned the need for management in some areas of Scotland, believing that the “*defensive approach of recreation and conservation has been failing*” (Kempe, 2002) and demanded that “*natural processes*” be allowed to take their course. Scottish Natural Heritage (2002) also produced a policy note on wildness and wild land and its protection through land use planning and made recommendations for its management. The John Muir Trust, which now owns large tracts of land in the Highlands and Islands, are also committed to protecting wild places (John Muir Trust, 2009). The National Trust for Scotland also owns significant areas of hill land, with some remoter areas managed according to a Wild Land Policy (McMorran & Glass, 2013). However, some critics argued that land abandonment is often mistaken for re-wilding and that to think that “*re-wilding would lead to an eco-tourism based economy is seriously flawed*” (Rotherham, 2008).

Conversely, for the past 40-50 years, there have been issues over the density of livestock and deer in the hills, leading to claims of overgrazing (Thompson et al., 1995; Evans, 1997). The agricultural support schemes previously linked to animal numbers were often blamed for encouraging the over-stocking of domestic species (Evans, 1997). However, in the wake of the 2003 CAP reform and the decoupling of

subsidies, the issue of under-grazing has emerged (Holland et al., 2008; Pollock et al., 2013), with concern about the granting of Single Farm Payments for land where little or no agricultural activity takes place, and in some cases, even where land has been abandoned.

Warren (2009) also noted the controversy created by nature conservation policies with the reintroduction and species recovery plans of wild mammals and raptors in Scotland, which encountered outspoken opposition in rural areas, notably by estate managers, foresters and farmers (e.g. beavers (Warren, 2009), white tailed sea-eagle, golden eagle and hen harriers (Thirgood et al., 2000; Madders & Walker, 2002; Hanley et al., 2010; Arts et al., 2012)).

The recent access policies (e.g. Scottish Natural Heritage, 2004) also created contention amongst land users and policy makers. Not only were farmers concerned over the right of access by the public onto the land, but even conservationists raised issues of conflicting interests (Warren, 2009). Similarly, proposals from the latest Land Reform Review Group and through the 'right to buy' may also bring new conflicts between landlords and tenants (McMorran et al., 2014).

These conflicts are increasingly difficult to resolve, as the extension of use for many and delight for many invariably means a wider array of interests and stakeholders to please. Research into what people want from these areas (Hall et al., 2004; Morgan-Davies & Waterhouse, 2010) showed that these multiple land activities need to be considered together to avoid further conflicts (use and delight for all).

Greater attempts at integration have started to emerge in the hills, and have created genuine multiple land use activities. For instance, embedding consideration of sustainable development within the aims of the Scottish National Parks was quite unique and perhaps reflected a shift towards a multi-functional dimension of natural heritage management (Stockdale & Barker, 2009). McMorran (2008) also stated that the Cairngorms National Park began to deliver a regional approach to policy and development that involved collaboration between government agencies and landowners. Discrete initiatives, such as the Langholm Moor Demonstration Project in the Scottish Borders also strived at integrating management objectives, by devising a moorland management sympathetic to both an active grouse moor alongside the conservation objectives of this SSSI site (Langholm Moor Demonstration Project, 2013). The evolving Land Use Strategy for Scotland (Scottish Government, 2011b) was the first of its kind in Europe to set a long term vision and inquire what the land can deliver. It has promoted opportunities for delivering multiple benefits and integration, and better involvement of stakeholders. This could be seen as a very positive step, as it was the first time that the breadth of land uses, priorities and interests had been formally recognised, and that opportunity for public debate was offered, even if the question of its practical application, such as setting the priorities, is still a crucial one (Warren, 2009). Evaluation has been conducted

(Phillips et al., 2014) and the next stage of the Land use Strategy is now planned for 2016.

Use or delight, for few or many? In some cases, it is difficult to ascertain whether an activity is for use or delight, as shown by Wightman et al. (2002) for hunting in the Highlands and Islands of Scotland. Seemingly, the notion of benefactors and their relative scale has evolved over the centuries. In the era of the small-scale farmers in medieval times, there were lots of local many, compared to nowadays where there are relatively modest numbers of modern farmers being part of the many. Nonetheless, this dual dichotomy approach, presented in the context of Scottish hill lands, can also be valid for other hill and marginal land in Europe. For instance, Bernúes et al. (2011) argued that low input pasture based systems in mountainous and less favoured areas in the European Mediterranean basin suffer similar constraints of land abandonment and displacement by other economic activities (use or lack of use versus delight). Partidário et al. (2009) also stressed the need for effective policies within mountain areas in Europe that integrate social and economic objectives, as well as biodiversity and environmental ones.

Conclusions

Using a dichotomy to underpin the historical and present conflicts between the different land uses in the hills has been a useful analytical starting point. Up to the late 20th century, it can be argued that use (i.e. production of consumables, resources) and delight (non-consumable, enjoyment for aesthetic reasons or pleasure) have been perceived as diametrically opposed in the stakeholders' mind with very few government policies regulating one or the other, let alone together.

However, the balances between use and delight and the benefactors being the few or the many have also been in considerable flux. Although the pursuits of use or delight have carried on as in the past, the scale of interest and government regulations have changed, leading to a narrative that argues for a merged approach. Much talk of integration has occurred. In the 20th century, especially after the two world wars, government policies emerged, recognising that although use or primary production is beneficial for many, delight should be less confined to a privileged few, as the demands for non-consumable goods, pleasure, recreation and aesthetic value have increased within society in general. With this merging of use and delight for the many, the tensions and oppositions which were prevalent in the past, are now more in the public eye, as land use policies have attracted increased societal interest. Policies, which in the past were arguably single purpose driven, strived to become

multi-purpose, to accommodate the different views and expectations from more vocal and better-informed stakeholders.

Going from a 'use or delight for few' towards a 'use and delight for many', has not resolved the conflicts though, and there is still a need to reconcile these differing interests at both policy and management level. The Scotland Land Use Strategy could have been a useful framework if all land use policies had been considered together. However, it is not yet the case, with agriculture being omitted, and the divide between productive and protective functions still exists. The conflicts in land activities could be better reconciled by an appreciation of the different elements of use and delight and the different views and uses interested parties. This adds a dimension missed by a non-critical ecosystem services approach which, despite trying to consider all aspects of land use options under one banner, fails to recognise the nature of conflict in the wide variety of land use and values of the Scottish hill and upland areas.

This twin dichotomy approach presented in this study could inform the current debate as it tries to answer critical questions about land activity in hill and upland areas of "what is it for?" and "who is it for?".

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